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ADAPTED TO THE

SOUTHERN SECTION OF THE UNITED STATES.

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JANUARY 1844.

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THE

# SOUTHERN AGRICULTURIST,

## HORTICULTURIST,

AND

## REGISTER OF RURAL AFFAIRS;

ADAPTED TO THE

## Southern Section of the United States.

NEW SERIES.

**FOR THE YEAR 1844.**

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A. E. MILLER, PUBLISHER.

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# THE SOUTHERN AGRICULTURIST.

(NEW SERIES.)

**Vol. IV. FOR JANUARY, 1844. No. 1.**

For the Southern Agriculturist.

## INTRODUCTORY REMARKS.

MR. EDITOR:—The object which the agriculturist has in view, is to obtain the largest practicable result for the expenditure which he makes of time, labor, and the productive principle of his land.

These are, then, three distinct subjects which presents themselves to the planter for consideration, and upon the diligent investigation of which, depends the degree of his success in the pursuits of his occupation.

1. What is the shortest time in which land may be prepared to yield the largest product for the longest time?

2. What is the least amount of labor by which land may be prepared to yield the largest product for the longest time?

3. What are the most efficient means of sustaining the productive principle of land, at the same time that we may make it yield the largest product?

And it is only by viewing it with reference to these three questions, that we can determine the comparative advantages of any system of agriculture. For example, before adopting any proposed scheme, I must calculate the time labor, and exhaustion of fertility involved in the operation, and compare the result with all those previously established.

And we must be careful not to deduce a too hasty, and perchance false, inference, condemnatory of any proposed scheme, because, upon a superficial survey, one item in the calculation stands so much higher than we are accustomed to find it, as to lead us hastily to conclude that the other items entering into the account, can bear no proportion which will sufficiently reduce the sum total of expense.



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For although the labor required for carrying into operation the system under consideration may greatly exceed what is called for by any other; yet the decree and duration of the productiveness which it imparts to the land, may more than counterbalance the required excess of labor.

It is by such calculations as these, that the planter guards himself against every loss, even the loss of such opportunities of adding to his resources as may present themselves; for it often happens that a planter rejects a proposed improvement arbitrarily, because he is unprepared to test it by the calculations suggested above.

I have made these remarks, Mr. Editor, in the hope that they may commend themselves to the attentive consideration of some of our practical planters; and, may be, suggest to such individuals, the expediency of taking accurate memoranda of their every-day observations in the field of experiment, which may furnish them with data, whereupon to base the proposed calculations.

UN MITAYER.

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## OF PLOUGHING AND SUBSOILING.

### FROM LECTURES BY JAS. F. W. JOHNSTON, M. A., F. R. S.,

I. *Ploughing.*—Apart from the obvious effect of ploughing the land, in destroying weeds and insects, the immediate advantage sought for by the farmer is the reduction of his soil to a state of minute division. In this state it is not only more pervious to the roots of his corn, but it also gives a more ready admission to the air and to water.

Of the good effects produced by the easy descent and escape of water from the surface, I have already spoken, but the permeability of the soil to air is no less useful in developing its natural powers of production. How important the presence of the air is both to the maintenance of animal and to the support of vegetable life, we have had frequent occasion to observe. By its oxygen the breathing of animals is sustained, and by its carbonic acid the living plant is fed. On the earthy particles, of which the soil consists also, the influence of these gaseous substances, though not so visible and striking, is of almost equal consequence in the economy of nature. Among other immediate benefits derived from the free access of air into the soil, we may enumerate the following:—

1°. The presence of oxygen in the soil is necessary to the healthy germination of all seeds (Lec. VII.,) and it is chiefly because

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they are placed beyond its reach, that those of many plants remain buried for years without signs of life, though they freely sprout when again brought to the surface and exposed to the air. We have also seen reason to believe (Lec. V., § 2,) that the roots of living plants require a supply of oxygen in order that they may be maintained in a healthy condition. Such a supply can only be obtained where the soil sufficiently open to permit the free circulation of the air among its pores.

2°. In the presence of air the decomposition of the vegetable matter of the soil proceeds more rapidly—it is more speedily resolved into those sim pler forms of matter, carbonic acid and water chiefly (Lec. VIII.,) which are fitted to minister to to the growth of new vegetable races. In the absence of the air also, not only does this decomposition proceed more slowly, but the substances immediately produced by it are frequently unwholesome to the plant, and therefore fitted to injure, or materially to retard, its growth.

3°. When the oxygen of the air is more or less excluded, the vegetable matter of the soil takes this element from such of the earthy substances as it is capable of decomposing, and reduces them to a lower state of oxidation. Thus it converts the red or *per*-oxide of iron into the *prot*-oxide (Lec. X., § 1,) and it acts in a similar manner upon the oxides of manganese. It also takes their oxygen from the sulphates (as from gypsum,) and converts them into sulphurets. These lower oxides of iron and manganese are injurious to vegetation, and it is one of the beneficial purposes served by turning up the soil in ploughing, or by otherwise loosening it so as to allow the free admission of atmospheric air, that the natural production of these oxides is either in a great measure prevented, or that when produced they speedily become harmless again by the absorption of an additional dose of oxygen.

4°. Further, there are few soils which do not contain, in some quantity, fragments of one or other of those compound mineral substances of which in a previous lecture, (xii., p. 374,) we have seen the crystalline rocks to consist—of hornblende, of mica, of felspar, &c., in a decomposing state. From these minerals, as they decompose, the soil, and therefore the plants that grow in it, derive new supplies of several of those inorganic substances which are necessary to the healthy nourishment of cultivated crops. The continued decomposition of these mineal fragments is aided by the access of air, and near its surface, in an especial manner, by the carbonic acid which the air contains. A state of porosity, therefore, or a frequent exposure to the air, is favorable to the growth of the plant, by presenting to its roots a larger abundance not only of organic but also of inorganic food.

5°. Again, that production of ammonia and of nitric acid in the soil, to which I drew your especial attention on a former occasion (Lec VIII., § 5 & 6,) as aparently of so much consequence to vegetable life, takes place more rapidly, and in larger quantity, themore

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frequently the land is turned by the plough, broken by the clod-crusher, or stirred up by the harrow. Whatever amount of either of these compounds, also, the surface soil is capable of extracting from the atmosphere, the entire quantity thus absorbed will evidently be greater, and its distribution more uniform, the more completely the *whole* soil has been exposed to its influence. It is for this, among other reasons, that, as every farmer knows, the better he can plough and pulverise his land, the more abundant in general are the crops he is likely to reap.

6°. Nor lastly, though in great part a mechanical benefit, is it one of little moment that when thus every where previous to the air, the roots also can penetrate the soil in every direction. None of the food around them is shut up from the approach of their numerous fibres, nor are they prevented, by the presence of noxious substances, from throwing out branches in every direction. A deep soil is not absolutely necessary for the production of valuable crops. A well pulverised and mellow soil, to which the air and the roots have every where ready access, will, though shallow, less frequently disappoint the hopes of the husbandman,—than where a greater depth prevails, less permeable to the air, and therefore less wholesome to the growing roots.

II. *Subsoil Ploughing.*—And yet, as a general rule, it cannot be denied that a deep soil is greatly superior in value to a shallow soil of the same nature. It is so both to the owner and to the occupier, though in too many cases the available qualities of deep soils have hitherto been more or less overlooked and neglected.

The general theoretical principle on this subject—that the deeper the soil the longer it may be cropped without the risk of exhaustion, and the greater the variety of crops, deep as well as shallow-rooted, which may be grown upon it—is so reasonable in itself, as to command a ready acquiescence. But a soil is virtually shallow where a few inches of porous earth, often turned by the plough, rest upon a subsoil, hard, stiff, and almost impervious,—and the practical farmer will rarely be willing to allow the depth of the latter to influence his opinion in regard to the general value of the land. And in this he is so far correct, that a subsoil must be dried, opened up, mellowed by the air, and rendered at once pervious and wholesome to the roots of plants, before it can be made available for the growth of corn. This may be effected, *after draining*, by the use of the subsoil plough, an instrument at present, I believe, unequalled for giving a real, practical, and money-value to stiff and hitherto almost worthless clayey subsoils. It is an auxiliary both to the surface plough and to the drain, and the source of its efficacy will appear from the following considerations.

1°. The surface plough turns over and loosens the soil to the depth of 6 to 10 inches—the subsoil plough tears open and loosens it to a further depth of 8 or 10 inches. Thus the water obtains a more easy descent, and the air penetrates, and the roots more

readily make their way among the particles of the under-soil. So far it is an auxiliary to the common plough, and assists it in aerating and mellowing the soil.

2°. But though it opens up the soil for a time to a greater depth, the subsoil plough will in most cases afford no permanent cure for the deficiencies of the subsoil, *if unaided by the drain*. If the soil rests upon an indurated substratum—upon a calcareous or ochrey *pan*—this plough may tear it up, may thus allow the surface water to sink, and may greatly benefit the land; but the same petrifying action will again recur, and the benefit of the subsoiling will slowly disappear. Or, if the subsoil contain some noxious ingredients, such as salts of iron, which the admission of air is fitted to render harmless, then the use of this plough may afford a partial amelioration. But in this case, also, the effect will be only temporary; since the source of the evil has not been removed, the same noxious compounds will again be naturally produced, or will again, in fresh supplies, be conveyed into the soil by springs. Or, if the subsoil be a stiff clay, containing no noxious ingredient, it may be cut, or for the time torn asunder, but scarcely will the plough have passed over it till the particles will be again cemented together, and probably, by the end of a single season at the furthest, the under-soil may be as solid and impermeable as ever.

It is as the follower of the drain, therefore, in the course of improvement, that the subsoil plough finds its most beneficial and most economical use. After land has been drained, the water may still too slowly pass away, or the air may have too imperfect an entrance into the subsoil from which the drains have removed the water. In the former case, the subsoil plough must be employed, in order that the drains may become fully efficient; in the latter, that the under-layers may be opened up to all the beneficial influences which the atmosphere is fitted to exert upon them. In this respect it is an auxiliary to the drain. But as the full effect which the subsoil plough is capable of producing upon stiff and clayey subsoils, can only be obtained after they have been brought to such a state of dryness that the sides of the cut or tear, which the plough has made, will not again readily cohere, it is of importance that the drains should be allowed a considerable time to operate before the use of this plough is attempted. The expense of the process is comparatively great, and this expense will be in a great measure thrown away upon clay lands, which are undrained, or from which the water, either through defective draining, or from the want of sufficient time, has not been able fully to flow away. There are few kinds of clay land on which the judicious use of this valuable instrument will not prove both actually and *economically* useful, though from the neglect of the above necessary precaution, it has been found to fail in the hands of some. Such failures, however, do not justify us in ascribing to some fancied defect in the instrument, or in the theory upon which its use is recommended, what

necessarily arose, and could have been predicted, from our own neglect of an indispensable preliminary observation. The sanguine anticipations of its inventor, Mr. Smith, of Deanston, may not be fully realized, yet the value of the subsoil plough itself, and the benefits it is fitted to confer, when rightly used, appear to me to be both theoretically and practically established.

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## ON PLANTING AND PREPARING RICE.

Extracts from a pamphlet lately published by Col. R. F W. Allston, of Prince George, Winyaw, on the Introduction and Planting of Rice in South-Carolina, &c.

The varieties of Rice which are most common with us in Carolina are:—

1. The *Gold Seed Rice*, (the ordinary crop Rice most highly esteemed, and therefore universally cultivated,) an oblong grain 3-8ths of an inch in length, slightly flattened on two sides, of a deep yellow or golden color, *awn* short; when the husk and inner-coat are removed, the grain presents a beautiful pearly-white appearance—an ellipsoid in figure, and somewhat translucent. This Rice has been introduced into the Winyaw and Waccamaw region since the Revolution. It was planted by Col. Mayham on Santee in 1785.
2. The *Guinea Rice*, so called from its resemblance to one of the varieties of Guinea Corn in the shape of the head and clustering of the grains. In color the same, or perhaps a little deeper, the grain of this variety is in shape both broader and shorter, but not thicker, than No. 1. In figure, a sort of oblong sphereoid, compressed on two opposite sides, so as to be nearly twice as broad as it is thick; *awn* short, blunt; it is not cultivated as a crop, and is rarely met with.
3. The *Common White Rice*, in shape and general description like No. 1, except that the color of the husk is white or cream colored, and the grain when hulled is not as broad, nor as pearly; *awn* short: Some grains of this mixed with a sample of Seed Rice, constitute an objection to it, although it is this variety that constituted the earlier crops of the country.
4. The *White Bearded Rice*, very much the same as No. 3 in general characteristics. The grain of this kind is rather larger, and is furnished in its unhulled state with a very long *awn* or beard—grows well on high land. A sample of this last was brought from the East Indies in 1842, by Capt. Petigru, U. S. Navy. Some years ago it

was cultivated more or less extensively by planters for their negroes.

There are several other kinds of Rice in appearance, to be found in both the fields and the barn-yards, differing either in the size and shape of the grain, or in the size and appearance of the stem and leaflets. They are believed to be modifications of either one or other of the foregoing descriptions—none of these have, as yet, established a sufficient claim to be classed as distinct varieties.

They may be classed as

1. An improvement of the grain chiefly cultivated, arising from a long continued, careful selection of seed, the vigorous nature of the soil in which it was successively planted—the peculiarties of cultivation pursued consistently from year to year, and other circumstances—of this character, it is believed, is the large grain Rice so successfully produced by Col. Ward.*
2. A commingling of the grain, arising from a careless selection, or a neglect of selection of seed—and two or more of the foregoing varieties being planted in the same field, or in closely adjoining fields—the farina of each fructifying some plants of the other, &c.
3. A corruption or deterioration of the grain, arising from utter neglect, and exposure of the seed to the vicissitudes of weather from year to year, or the being covered so deep, in either earth or water, as not to have vegetated for years.

Of this last, the Volunteer Rice affords examples, viz. the red grain having the same exterior husk as No. 1, with perhaps the *awn* a little longer—the red grain, having a white husk like No. 3, and the red grain having the husk white like the last, with a longer *awn*, and dropping from the stem in the field as soon as it is matured—this kind of volunteer never can be harvested on the stem, it is sometimes stripped into bags and baskets, and used as horse and poultry feed. In either case, whether the grain have dropped from being touched, or has been stripped off for use, the stem, relieved of its superincumbent weight, stands erect, and towers above the worthier and well freighted heads of the surrounding field. Hence it is called, in the vernacular, "*Proud Rice.*"

The cultivation of Rice in Carolina has added materially to the wealth of the Province—the Colony—the State; and

* See Report of Committee on Rice to the State Agricultural Society, 1843, in following pages, for Col. J. J. Ward's, account of this grain.

has enhanced, in no inconsiderable degree the value of the active commerce of both the kingdom of Great Britain, and the Federal Republic of the United States.

It is destined to add still further to the productive wealth of our country. The consumption of Rice, it is believed, will continue steadily to increase in proportion, as the various uses of this valuable grain shall be more generally ascertained, and rendered familiar in the useful and ornamental arts, as well as in its culinary preparations, as an ordinary vegetable, or a delicate luxury.

By this grain a large portion of the human race actually subsist, and, it is believed, it may be yet more universally consumed. It is a vegetable which undergoes no very material change, from change of climate. When put up for exportation, it deteriorates less than any other grain or breadstuff whatever, and when cleaned and brushed in the best manner, it will keep sufficiently sweet and sound during the longest voyage.

Indeed, Rough Rice, or Rice in its primitive state before the chaff or husk has been removed, may be kept fresh and sweet for years; even should it, for a moment have been immersed in water, the sun's warm rays, and a little dry air, effectually preserve it for a long time. One hour is sufficient to reduce a bushel of Rough Rice (one half,) to a state fit for cooking; and the only instrument requisite is simply a wooden mortar and pestle.

Professor Liebig in a note to his admirable and valued work on Chemistry, as applied to Agriculture and Physiology, p. 98, furnishes a chemical analysis of Rice, in terms substantially the same as those in which the same analysis by Braconnot is given by Berzelius. "According to the analysis of Braconnot, (*Ann. de Chim. et de Phys.* t. iv. p. 370,) this grain is thus constituted.

| | *Carolina Rice.* | *Piedmont Rice.* |
|---|---|---|
| Water, | 5.00 | 7.00 |
| Starch, | 85.07 | 83.80 |
| Parenchyma, | 4.80 | 4.80 |
| Gluten, | 3.60 | 3.60 |
| Unchrystallizable Sugar, | 0.29 | 0.05 |
| Gummy matter approaching to Starch, | 0.71 | 0 10 |
| Oil, | 0.13 | 0.25 |
| Phosphate of Lime, | 0.13 | 0.40 |
| | 99.73 | 100.00 |

with traces of muriate of potash, phosphate of potash, acetic acid, sulphur, and lime, and potash united to a vegetable alkali. Vauquelin was unable to detect any saccharine matter in rice. —*Thomson's Organic Chemistry, p.* 883."

An analysis of the straw and offals of Rice is now in progress.

### EARLY INTRODUCTION AND CULTURE.

As early as the year 1666, the facilities afforded by the character of the low country of Carolina for the cultivation of this seed, were remarked by agents of the English interested in the settlement and improvement of the new world.* In less than forty years from that time the swamp seed was actually introduced, and successfully cultivated in South-Carolina.

It happened thus by accident,† Landgrave Thomas Smith, (or Smyth. as honest John Archdale wrote the name,). on a visit to the East, before coming to this country, had observed the plant and some of the circumstances attending its culture. After settling in Carolina, it occurred to him that the low grounds and climate of the country were admirably adapted to this culture. Earnest in this opinion, and desirous of an opportunity to test its value by experience, providence brought within his reach the only means necessary to do so; and thus by his instrumentality, bestowed upon a portion of the new world a great and permanent blessing. In the year 1694, after Landgrave Smith, dissatisfied with the Province, had entertained thoughts of quitting it, a vessel from Madagascar, in distress, put into the harbor of Charleston, having on board a little Rough Rice, in the cook's bag. This Rice was given to Mr. Smith, who planted it in a low moist part of the garden, at his residence near White Point.‡ The plant grew luxuriantly, and the grain matured finely. The product was

* In " a brief description of the Province of Carolina on the coasts of Florida, &c., printed for Robert Horne, near Bishop'sgate-street, London in 1666." [the charter of Carolina is dated the 30th day of June, in the 17th year of the reign of Charles 2d,] " it is mentioned among other things, that the marshes and meadows are very large, from 1,500 to 3,000 acres and upwards, and are excellent food for cattle, and will bear any grain being prepared; some cattle both great and small, will live well all winter, and keep their fat without fodder. The meadows are very proper for *Rice*, Rape-seed, Lin-seed, and may many of them be made to overflow at pleasure with a small charge."—2 *Car. Col.* 13.

† Ramsay's History South-Carolina, chap. 5th.

‡ A spot now traversed by Longitude-lane.

wisely and liberally disseminated as seed* among the neighboring planters, who in their turn supplied other planters living more in the interior; and so on, till this became the chief article of production, the staple commodity of the Colony.

There is extant another account of the introduction of this valuable seed, which refers it to the year 1700† or thereabout, and associates with it the name of another gentleman, a Mr. Woodward.

It is further recorded‡ that a Mr. Du Bois, Treasurer of the East India Company, did, some short time after, send out to this country a small bag of seed Rice. Whether these were distinct and successive importations, which is highly probable; and whether or not there were two or more varieties of the grain introduced, certain it is the seed was so rapidly dispersed along the rivers, and inland-swamps, that soon the province became a Rice-growing country. And since, under different forms of Government, as a Colony of Great Britain, and as a Sovereign State, constituting an integral part of the United States, under a Federal Republican form of Government, the principal staple production of South-Carolina has been the best Rice in the world.

At first, Rice was cultivated on the high land, and on little spots of low ground as they were met with here and there. These low grounds being found to agree better with the plant, the inland swamps were cleared for the purpose of extending the culture. In the process of time as the fields became too grassy and stubborn, they were abandoned for new clearings; and so on, until at length was discovered the superior adaptation of the tide-lands, and the great facilities for irrigation afforded by their location. For these, the inland plantations were gradually and slowly abandoned, until now, that the great body of land, which little more than a century ago furnished for exportation over 50,000 barrels of Rice, now lies utterly waste, constituting, where trees have not overgrown it, the finest natural pasture which could be desired.

As may very well be supposed, the seed was at first, very sparingly sown, and the ground, being new, furnished an immense yield in return.

* In new land well drained under favorable circumstances, from one grain may be matured 24 ears or heads, carrying each from 10 to 380 grains. There is a tradition, that some forty years ago, a stalk of Rice having 60 branches or tillers, was seen at the old butcher-pen, near Georgetown. There was grown the past year in the garden of Dr. E. T. Heriot, a plant from one grain having 70 branches.

†2 Car. Col. p. 270.

‡ Ibid.

A peck of seed to the acre sown thin in drills, eighteen inches apart, would, on good land yield thirty, forty, fifty, and even sixty bushels, in proportion to the care bestowed on its culture.

As the grain became more plenty and common, and the space between the drills was slightly diminished, the quantity of seed was by little and little increased.

It is now from two to three bushels per acre, varying according to the character and condition of the land, and the peculiar notions of "watering" entertained by the planter—a free use of water justifying, and indeed requiring a liberal allowance of seed.

The space between the drills now, from centre to centre, is thirteen, fourteen, or fifteen inches—the best distance is thirteen inches where water is used freely—the dry culture requires a more frequent use of the hoe, and therefore the largest space is preferable.

The average product of Rice-land at present varies from twenty-five to sixty bushels per acre, generally increasing in quantity (though deteriorated in quality,) in an inverse ratio to latitude.*

The seed should be selected with the greatest attention to purity and maturity of the grain. A sample containing one red grain in one hundred grains, is considered by the best planters inferior. Seed-rice, having a greater proportion of red or volunteer rice than one per cent, is totally unfit for planting. To procure the most mature rice for seed, a good plan is to thresh the rice over a barrel or large log, the butt of the sheaf being held by both hands. In this way the riper grains alone are whipped off, serving as seed; whilst the remainder on the sheaf is threshed off in the usual way.

*Product.*—Within seventy degrees of latitude, radiating from the Equator, this valuable grain is cultivated all over the Globe—even in the Himalaya mountains there is said to be a variety naturalized and grown†—another, or possibly the same, in Siberia. From climate and peculiar treatment, the vegetable Rice acquires a certain constitution: adapting itself to the habitudes of the region in which it grows, it does not so

* The higher the latitude, generally, the better the Rice in quality;—hence planters look to the northward of their own locality for their Seed-Rice, when it can be obtained thence comparatively free of volunteer.

† Ency. Am.

readily succeed elsewhere, until it is acclimated by time. Grown in India, in China, in most of the Asiatic Islands, in Southern Europe, in Africa, in South and North America, each country yields its own peculiar seed.

In North America, although there is known on the margins of some of the Northern Lakes a kind of wild Rice, which, when that country was in a state of nature furnished no little subsistence to the aborigines, yet it is scarcely cultivated North of the State of Virginia. The census of 1840, exhibits the following scale of production in the United States.

| | | | | |
|---|---|---|---|---|
| Missouri, | taking the crop of | 1839 | as a basis, produced | 65 lbs. Rice. |
| Illinois, | do. | do. | 598 | do. |
| Virginia, | do. | do. | 3,084 | do. |
| Arkansas, | do. | do. | 5,987 | do. |
| Tennessee, | do. | do. | 8,455 | do. |
| Kentucky, | do. | do. | 16,848 | do. |
| Alabama, | do. | do. | 156,469 | do. |
| Florida Territory, | do. | do. | 495,625 | do. |
| Mississippi, | do. | do. | 861,711 | do. |
| North-Carolina, | do. | do. | 3,324,132 | do. |
| Louisiana, | do. | do. | 3,765,541 | do. |
| Georgia, | do. | do. | 13,417,209 | do. |
| South-Carolina, | do. | do. | 66,897,244 | do. |

As it is only in tide-water swamps that this grain can be cultivated to advantage, and therefore only in such lands that the culture will probably be extended: the system of culture pursued on the tide-lands of Carolina only will be detailed.

The swamp and marsh lands in this region, when in a state of nature were overflowed by the tides in ordinary times. In the time of spring-tides, they might have been found covered at high water to the depth of from twelve to twenty inches. When reclaimed they are furnished with a sufficient dam to exclude the tide-water, and a "trunk," or framed culvert, furnished with a door at each end swinging upon long levers, which are attached to sturdy uprights, so as to admit or exclude the tide at pleasure—retain or discharge it, after being admitted. The large enclosure is subdivided by "cross-banks," or dams, into fields of convenient size, containing variously from fourteen to twenty-two acres. In constructing the banks, large ditches (five to eight feet wide,) are excavated to the depth of five feet, leaving between the ditch and bank a margin of twelve feet or more.

These serve to drain the field. From one of these ditches to another, in one direction, and at the distance of 37½ to fifty feet apart, are cut smaller ditches or "drains," eighteen inches wide, and three feet deep. Thus thoroughly reclaimed, and completely drained, the swamp, if well seeded, will produce abundantly from the first. The following remarks, however, will be understood as applying to old land, from the surface of which stumps and marsh have entirely, or for the most part disappeared. In this condition are now found, most of the lands in the rice-growing region. Fields, as they become exhausted by long-continued cropping, are revived by manuring with rice-straw and tailings, or by turning under the spontaneous growth of a dry fallow for one or more years.*

*Preparation.*—The land is ploughed, or dug with the hoe, as early in the winter as can be—if before Christmas the stubble is turned under—if later the stubble is burned off. The land is then covered with water during any warm changes of weather in winter, and exposed to the frost when it is colder. In March the field is kept dry, the drains are cleansed, the upturned clods are broken, and the whole leveled with the harrow or hoe—the field is trenched in a direction across the drains, with a hoe made for the purpose, to open a trench of from 3 to 5 inches in width. The trenches or seed-furrows will be 13, 14 or 15 inches apart from centre to centre. In April, and until the middle of May, the Rice is sown in these trenches, say 2½ bushels of seed to the acre of 45,000 square feet.

*Dry Culture.*—The seed is covered lightly with a light board attached to a hoe-handle, and the field is inundated from 4 to 6 days, just long enough to swell the grain, and prepare it to sprout. As soon as it is sprouted, and the plants become perceptible, like so many needle-points above ground, the water is again put on for four or six days, according to the warmth of the atmosphere.

*With Water Cover.*—The more common practice now in the neighborhood of the writer, is not to cover the seed with earth, but to "clay" it first,† and after sowing, to flood the

*For a system of fallowing *see Southern Agriculturist, N. S.*, vol iii. p 243, also, Mr. E. T. Heriot's letter in the following pages.

† The process of "Claying" Rice. was introduced some where about the year 1823 by that judicious, practical man, and observant, experienced planter, Capt. John H. Allston, of Prince George Winyaw. It may be thus described—take

land forthwith, making the "sprout" and "point" water, one and the same. The method first mentioned is the best for early planting, though the labor required is greater. After the season is sufficiently advanced for the grain to germinate quickly, the "open" planting, less laborious, is equally certain, and by some persons is considered more certain to procure a regular and even stand. In all his early planting, *i. e.* until the middle of April, the writer allows three bushels of "clayed" seed to the acre His trenches are fourteen inches apart from centre to centre, and five inches wide—the seed is scattered in the trench. He uses the water freely.

When the plant is five to six weeks old, the earth is stirred with the hoe, in ten days more, the hoe is again used, and the "long-water" put on for two weeks or thereabout; deep the first four days, then gradually diminished until the plant somewhat recovered from the exhaustion occasioned by its rapid growth under water, stands up erect, and begins to throw out a new root; the water is then drawn. About eight days after when the field is quite dry, a very deep hoeing is given, and the plant left undisturbed until it is prepared to form a joint; so soon as this is apparent, the field receives a light dressing with the narrowest hoe, and is "laid by," *i. e.* the "joint water" is put on to remain until the grain is matured, which is usually two months from this time. A few days before cutting, the water is run off. and the ditches washed out by the succeeding tide. The rice is cut with a sickle (task one quarter of an acre to the hand to cut and carry,) and laid carefully across the stubble to cure till the succeeding day. The dew off, it is then bound in sheaves of convenient size, just as wheat is, and packed in large floats (bearing 5 to 7 acres,) to be conveyed to the barn-yard. There it is stacked

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two large tubs, say the two halves of a hogshead: fill one with water three fourths full. add to it 3 or 4 baskets or more of good red clay. stir it well until the clay is dissolved and the water has taken up a sufficiency of it to feel clammy between the fingers. Pour off this water into the other tub into which also measure as much seed-rice as the tub will hold without wasting. stir it about until every grain has been wetted by the clayed water, taking care to pause every now and then for the purpose of skimming off the grass seed. and light rice which rise to the top and float on the surface. Then dip out the seed rice in seives. allowing the water to drip back into the tub, and spread it in the barn to dry for the next day's sowing. Put more seed into the tub. and, when requisite, a fresh supply of clayed water, prepared as before and so on.

The advantage of this preparation is that the grain, furnished on its exterior husk with a hairy fuz. retains about it, (after being dried sufficiently to be handled in the sowing,) particles of the tenacious clay: this, on the grain in the trenches being reached by the water with which the field is flooded immediately after sowing, makes it adhere to the earth, and of course prevents the seed from floating.

temporarily in small ricks, and when thoroughly cured, put away in large stacks made to contain from 200 to 400 bushels each when threshed.

The threshing is performed, almost universally, by a labor-saving machine; and the grain is cleaned and prepared for market by means of the Pounding-mill herein described.

*Water Culture* or "*sixty days system.*"*—The land is flowed soon after harvest for the purpose of sprouting the volunteer and scattered Rice, until the winter sets in: it is then dried, and kept dry. As early as practicable, the stubble is burned off. The ditches and drains are well cleansed at convenient times, and the land is turned late—a short time previous to planting. After this the preparation is as usual—the trenches are fourteen† inches apart from centre to centre, and are opened four inches wide. The seed after being "clayed," is scattered in the trenches, allowing two bushels and twelve quarts to the acre. The water is put on so as to cover all the hills, and kept so until the sprout of the rice is green, and the blade well opened; or until the rice begins to float. The water is then slacked down, until the tops of the plant show out on the level land, not regarding the low places. At this level it is held until the low places come out; it is then raised gradually every three or four days, until about six inches deep on the level parts of the field; at this it is held---observing to freshen the water every other *night*. As soon as the plant is sufficiently strong, the water is slacked down quite low, the hoe is dragged through between the trenches, and the hands pick out the long grass, weeds and rushes. The water is then forthwith returned up to the same mark as before. This working should be given about ten days before drying the field---as, soon after it is done, the plant puts out new roots, by which it is sustained and prevented from "checking" when the water is drawn. In drawing this water, the condition of the plant must guide the judgment. In ordinary seasons, the first planting may be dried in forty-five to sixty days, the last

* Reduced to system by Mr. Archibald Ligett, of Winyaw, who has politely furnished this synopsis. Mr. L. thinks, and very properly, that the practice of making rice with water altogether is a vicious one, and should be resorted to only where the land is in such bad order, that the labor of planting would not be compensated with any other.

† Various distances from twelve to sixteen inches have been tried by Mr. L.—and he has decided upon fourteen inches as the best. The writer's experience confirms this decision.

planting in forty to fifty days: whenever, about that period, the plant is putting out a new root, and always early enough to allow it thirty days dry growth at least before forming the second joint. Seven days after the water is drawn, the field is hoed very deep, and if the land is stiff, the sods are turned over, or it is "back sodded"---in a fortnight after it is hoed again if practicable. As soon as the plant has formed a second joint, and the hollow is preceptible, the last or "joint water" is put on, to the same depth as before, and never raised until the rice begins to shoot forth the ear.

### VALUE OF THE RICE CROP.

The value of the Rice crop, as derived from examining the actual nett revenue of six different planters for ten years, from 1830 to 1840, has been equal to $140 per annum to the hand---that is only taking into account the *efficient force* of the respective plantations.

The price of Rice for the same time averaged as follows:—

In 1830—1831—1832—1833—1834—1835—1836—1837—1838—1839.

$2\frac{5}{8}$ $2\frac{3}{4}$ $2\frac{13}{16}$ths $2\frac{5}{8}$ $3\frac{3}{16}$ths $3\frac{1}{4}$ $3\frac{7}{16}$ths $3\frac{11}{16}$ths $4\frac{1}{16}$th $2\frac{1}{2}$

being an average for that time of $3\frac{1}{8}$.

During the past season the price was low, owing partly to the want of demand for Rough Rice, which caused an undue quantity of clean Rice to be forced upon the market at the same time—partly to the increased production arising from a favorable harvest—but, principally, to the low price of breadstuffs generally, and the depressed state of trade all over the world, and the low standard of value affixed to almost every thing, by a return to a Bank issue based upon a specie currency—the only safe and permanent basis.

To those planters, somewhat in debt, who have been met, in the full career of habitual expenditure, by the late and present low prices of produce, they have proved seriously embarrassing.

Low prices, if they continue permanent so as to effect a corresponding graduation in price of all the usual objects of expenditure, are doubtless favorable to the lasting prosperity of the country. If this be true, our planters will not complain. The sooner they and their society can accommodate themselves to the new condition of things, i. e. *buy less*, and endeavor to make more for sale, the sooner will those, whose

business it is to supply them, graduate their prices to the reduced standard—and their renewed prosperity, if it be less sudden and ostentatious, will not be the less sure and permanent for that; nor the less gratefully acknowledged.

### DRILL PLOUGH.

Some where about the year 1812, the late Dr. Robert Nesbit, returning from a visit to his native country, (Scotland,) introduced an implement in the economy of Rice-planting, which excited no little interest among the planters in his neighborhood. It was called the "Drill Plough." Its office and uses were to open the trenches and deposit the seed, which it was found to do very well when managed with care, to the saving of so much labor.

The Drill Plough was borne by a carriage on two wheels, very much resembling in size and height an ordinary dray, and was drawn by one horse between shafts. It consisted, generally, of a long box parallel with the axle and above it, into which the given quantity of seed grain was placed and locked up. From this box the grain was distributed by means of regulators into and through tin tubes, descending nearly to the earth, at the required distance from each other for planting. These tubes or cylinders were guided in their descent, and sustained in their respective positions, by rods of iron fixed firmly into the frame, but so as to yield to an obstacle when pressed hard against. The rods, on their part, were each furnished at bottom with a sort of shoe, protruding a little beyond the tube, for the purpose of marking and opening the trench into which the seed was to be conveyed by its corresponding tube. Although a little too complicated, it was, upon the whole, a complete and interesting labor-saving machine. Drawn by a good horse, over ground in high tilth, and managed by a skillful and judicious hand, the Drill Plough would trench and seed from eight to twelve acres of ground in the day, in proportion nearly as it was furnished, with a less or greater number of trenching-shoes and tubes. It was used successfully by the importer, and, more or less, by several other planters on the Waccamaw and Pee Dee, up to the year of his death, (1821,) since which time it has been entirely abandoned. This result is supposed to be owing, not to the fact that the plough was not found to be highly useful, so much as to this, that to use it successfully, it required more

minute attention and judgment than could be calculated on, among the field-laborers of that day. The writer is inclined to the opinion, that the Drill Plough will again be introduced, and successfully used in Rice-planting.* Indeed he has himself ordered the importation of an improved one from Scotland, to be accompanied by a laborer who is familiar with its use. One of these ploughs, used by the importer, having four tubes, would on long beds, trench and sow *ten* acres in a day. Another furnished with six tubes, could accomplish *fifteen* acres under like circumstances, in the same time.

A simple trenching plough, furnished with coulters for opening two or three trenches at a time, has been used with advantage on light soils; but it has not been generally adopted.

### THRESHING MILL.

The same gentleman, Dr. Nesbit, who was as much distinguished by his general intelligence, and scientific ingenuity, as he was noted for skill and success in the practice of his profession, imported and used upon his plantation in the year 1811, the "Scotch Threshing Mill." His motive power was wind. When the wind was fresh and the weather fair, this machine would thresh and winnow five hundred bushels in a day.

Among the various attempts of the several inventors in this country to improve upon the Wheat Thresher so as to make it available for Rice, none met with permanent success until the year 1830, when was produced a machine, the beaters of which were shod with sheet iron and serrated with iron wire.

The principle, to which is owing the superiority of this invention, is that whilst revolving with increased rapidity, (600 to 800 to the minute) by means of the teeth with which the beaters are furnished, it combs off the grain from the numerous foot stalks of which the ear of Rice is composed. The invention which is now in very general use, yielding, when worked by animal power, from two to three hundred bushels per day, and when propelled by steam 450 to 700

* Since writing the above, it is ascertained that Mr Francis M. Weston, of Waccamaw, who has just returned from England, has ordered for importation an improved *Drill Plough*, which, on its arrival in this country, will be left some time at the Agricultural Repository of J. D. Legare, for the inspection of planters

bushels each, is due to the ingenuity and mechanism of Calvin Emmons of New-York. To the liberal enterprise and public spirit of Gen. James Hamilton are the planters of Rice indebted for the first thorough test of the powers of this machine, and for the subsequent early notoriety of its successful operation.

### MILLING.

Although it is recorded that planters early in the 18th century cleaned their Rice by mills worked by horses or oxen, yet this could not have been the case generally, till about the middle of that century. Even towards the period of the war, hand-mortars were still extensively used.

The method was that each male laborer had three pecks of Rough-rice in a mortar, and each female two pecks, to pound before day or sun-rise; and the same at night, after finishing the ordinary task in the field. The pounding was done in wooden mortars made of the common pitch pine, to contain a bushel or less, the pestle was made of lightwood or the heart of pine seasoned: the process was conducted on the floor of a large barn prepared for the purpose. The Rough-rice was sometimes ground by being passed between wooden blocks twenty inches in diameter by six inches thick, worked by hand. The mills early in use, and propelled by animal power, were the Pecker-machine, (so called from the striking resemblance of the pestle when in action, to the bill of the Wood-pecker) and the Cog-mill, both of which have been entirely superseded by the improved Pounding-mill, propelled by water or steam.

Between the years 1780 and '90, the first *Water-mill* was erected by Mr. Lucas, the elder, to whom solely the credit of the invention is understood to be due.

It is to be regretted that the family of Mr. Lucas have not favored us with more full and accurate notes of their ancestors' early ingenuity and skill as a mill-wright. His son Jonathan inheriting the father's mechanical turn and skill, constructed on Cooper river in 1801 the first *Toll-mill* for cleaning rice. He yielded at length to the invitations of the British Government and transported his improvements to England, where he himself passed the remainder of his days. His son Jonathan, now living, shipped in 1823 the first load of Rough-rice which was exported from this country.

The first Water-mill built by Mr. Lucas was, in the year 1787, for Mr. Bowman, on a Reserve at his Peach-Island plantation on the river Santee.

The next on the same river, was on the Reserve at Washo plantation, for Mrs. Middleton, afterwards Mrs. Gen. T. Pinckney.

About the same time or soon after, a Water-mill was put up on a Reserve on Winyaw bay for Gen. Peter Horry. Also for Col. William Alston, on the Reserve at his Fairfield plantation on the river Waccamaw.

In the year 1791-2, Mr. Lucas built on Santee the first *Tide-Mill* for Mr. Andrew Johnston, on his plantation called Millbrook.

In a year or two after, the same indefatigable and ingenious mechanic erected on Cooper river an improved Tide-mill, being furnished with Rolling Screen, Elevators, Packers, &c., at the plantation of Mr. Henry Laurens, called Mepkin.

Upon these, the mills erected at a later day, have been improvements in construction chiefly. Some substantial improvements are said to have been introduced recently by David Kidd, a machinist from Scotland, of very high character for ingenuity and practical ability. He is himself one of the best millers, practically, in the State.

In the preparation of Rice, much depends on the grinding of the rough. (In Northumberland, England, are the best quarries of stone for this purpose.) In this process as in that of brushing and polishing the grain after pounding, there has been latterly a decided improvement, owing mainly to the observation and genius of the mill-wright just named.

At present almost every planter of four hundred acres and upwards, is provided with a Tide-water or a Steam-pounding mill for preparing his own crops for market.

There are also a number of Toll-mills in the State, nearly sufficient for preparing all the rough-rice which is not pounded at the plantations.

In Georgetown, besides various Tide-mills on the neighbouring plantations which pound on toll, more or less, there is a very good Steam-mill owned by Mr. Benjamin King.

| To 3000 bushels of fair Rough-rice this mill will yield of prime Rice for market, | *Tierces 600 lbs. nett.* 144 | 300 lbs. |
|---|---|---|
| Of Middling, | 7 | |
| Of Small Rice, | 6 | tierces. |
| Of Flour, | 320 | bushels. |

In Charleston and its vicinity there are numerous Tide-mills and several Steam-mills, the chief and most successful of the latter are those of Mr. Chisolm, Mr. Hume and Mr. Lucas.*

Mr. Lucas has not favored me with a reply to my queries in relation to the operations of his Mill. Nor has Mr. Hume.

From accounts of the operations of Mr. Chisolm's Mill, I infer that 3000 bushels of fair rough-rice will yield of prime Rice for market, *Tierces 600 nett.* 148 300 lbs.

| | |
|---|---|
| Of Middling, | 3 |
| Of Small, | 3 |
| Of Flour, | 330 bushels. |

In the city of New York, owing to the public spirit and enterprise of Col. Benjamin F. Hunt, there has been for some years in operation a very good Steam-mill, which receives Rice on toll, and consumes besides, some 30,000 bushels of Rough on its own account.

As the other Toll-mills from which I have heard have furnished results based upon the preparation of South-Carolina Rice alone, I have thought proper to use only Mr. Bilby's experiment with the Charleston Rice.

| To 3000 bushels of Rough Rice, the New York Mill yields of prime Rice, | *Tierces 600 lbs.* 82 | 422 | | |
|---|---|---|---|---|
| | | | *bbls.* | *lbs.* |
| Of Good to Fair Rice, | 45 | 570 | | |
| Of Broken Rice, (middling?) | 16 | 129 | 144 | 521 |
| Of small Rice or Chitts, (26.31 bushels.) | | | 2 | 510 |
| Of Flour or Douse, (381.21 bushels) | | | 15,630 | lbs. |

In the Mill erected by Mr. Napier on Cooper River, "*Wire Cards*" are used instead of pestles for cleaning the grain.—This mode of preparing Rice imparts a slightly blueish tinge to the grain, tho' it is supposed to keep longer than rice prepared in the ordinary way. Rice thus prepared will not command as high a price per cwt. as that from the pestle, of similar quality, but it is said to be the interest of the planter to patronize the "Cards," inasmuch as the yield in whole rice, from a given quantity of rough, is invariably greater, the offal being less. In the year 1842-3, this mill prepared about seven thousand barrels, and seems to have given satisfaction to its patrons.

* Since the above was published it is ascertained that Mr. Nowell has applied a steam-engine to his mill.

The trial upon Mr. Deas' Rice from Santee is selected as the fair test of this mill—1950 bushels. At the same rate 3000 bushels of prime Rough Rice will yield in prime Rice for market, *Tierces 600 lbs.* 144

| | |
|---|---|
| In Middling Rice, | 368.85 lbs. |
| In Small Rice, | 1,323.23 lbs. |
| In Flour, | 226 bushels. |

Recently an ingenious method of lifting the pestles has been invented by Mr. S. K. Williams of the city of Charleston, to be used in substitution of the lever ("lifter") described in Mr. Lucas' mill. One advantage of this invention is said to be the greater rapidity with which the pestles (themselves lighter) may be driven without interfering or "slamming." Another, that a system of pestles and mortars may be more compactly arranged in circular form, and may be moved by a less power.

The invention is called "The Spiral Shaft Rice Mill." As it has never yet been actually tested, nothing more can be said of it here.

### PROCESS OF PREPARATION.

The stones which are used for grinding rice should be 5 to 6 ft. 2 in. diameter and 18 inches thick at the centre. There is said to be a quarry in Northumberland affording stones of such excellent substance that they will grind Rough-rice enough for packing 1000 barrels without being taken up.

The whole process of preparation may be described generally as follows. From a shed or convenient store-room attached to the mill-house the rough rice is taken by means of elevators, (*i. e.* a system of small tin buckets attached to a long revolving band of leather) up to the highest apartment in the building, to be passed through a sand-screen revolving nearly horizontally, which in sifting out the grit and small grain rice, separates also all foreign bodies and such heads of rice as were not duly threshed.

From the sand-screen the sifted rough of large size is conveyed directly to the stones on the same floor, where the husk is broken and ground off, thence to a wind-fan below, where the chaff is separated and blown off. The grain is now deposited in a long bin, placed over the pestle-shaft and corresponding in length with it, whence the ground rice is delivered

by wooden conductors into the mortars on the ground floor, (ten, twelve, fourteen or twenty-four in number as the power applied may justify.)* These mortars, improved by Mr. Kidd's design, are constructed beautifully of four pieces of the heart of pine, seasoned. They are in figure, a little more than a semi-ellipsord and are made to contain four and a half bushels of ground rice each.

The pestles, also constructed of the heart of pine and corresponding in number and position with the mortars, are sheathed at foot with sheet-iron, partially perforated in many places from within by some blunt instrument, so as to resemble on a very coarse scale the rough surface of a grater. They are intended to weigh each 240 to 280 lbs. or thereabout, are lifted by levers six feet long attached (2 feet out) to the large pestle-shaft, and make from forty-four to forty-eight strokes in a minute. A mortar of rice is disposed of or sufficiently pounded in one hour and forty minutes to two hours. The grain thus pounded is again elevated to the upper floor to be passed through a long horizontal rolling-screen, slightly depressed at one end, where, by means of a system of wire-seives grading coarser and coarser towards the lower end, are separated first the flour, second the "small rice" (the eyes and smaller particles of the broken grains) third the "middling rice" or the smaller, and the half-broken grains, fourth and last the "prime rice" the larger and chiefly unbroken grains, which fall through the largest wire, and forthwith descend to the "polishing" or "brushing-screen" below, whence it descends through a fan into the barrel on the first floor where it is packed and the preparation is completed.† The head rice (or largest grains of all,) together with the rough, unbroken by the stones, passes off at the lower end of the screen to be pounded over.

The "*brushing-screen*" consists of a vertical cylinder or drum two feet in diameter by from four and a half to six feet in height, to the surface of which are attached, vertically, shreds of sheep-skin closely packed, this drum is made to revolve with great velocity within, and lightly brushing, a cylindrical frame of iron-wire made into a fine seive. In passing down spirally between this clothed drum and the exterior cylindrical wire-seive, the grains are relieved of the particles of flour which still adhered to them, and which are brushed

* It is understood that Mr. Lucas' mill drives 28 pestles, and Mr. Chisolm's 30.

† Mr. Chisolm has constructed in his mill a second screen for polishing, through which the rice from the brushing screen is passed on its way down to the barrel.

off by the wool and forced out through the meshes of the wire. The rice thus brushed clean and polished against the wire is packed in barrels constructed of pine staves to contain six cwt. nett. The midling and small rice are passed through a fan which blows off from them the flour into an apartment kept for that purpose. They are packed separately and used as provisions for the laborers on the plantation during the warm months chiefly, at Christmas holidays and throughout harvest, and habitually by the families of both the proprietor and his overseer.

Rice being so completely protected by its silicious husk, and thus so much less liable to damage from transportation in the rough, than when cleaned; owing too, to the superior manner in which clean rice can be presented in the European markets fresh from the screen: capitalists concerned in this trade, have caused mills propelled by steam to be erected on Mr. Lucas' plan at various ports in England, and on the Continent, at which upwards of 400,000 bushels of rough rice from this State are annually prepared—besides a quantity of paddy from the East Indies, and from other quarters.

To encourage the construction of such machinery in Great Britain, and to protect the capital invested in the mills, the importation of rough rice, rather than clean, is encouraged in that kingdom by a discriminating duty in favor of the former, equal to four dollars per barrel of the latter.

*In England*, there are in operation four mills—two in London and two in Liverpool, consuming each about 75,000 bushels of rough annually. When the price of Carolina rice ranges high, these mills are, to a great extent, employed in manufacturing paddy from the East Indies.
The mill in Scotland has been converted to another purpose.

*In Denmark*, at Copenhagen, a mill has been in operation about six years---consumption about 90,000 bushels of rough.

*At Bremen*, there is a mill intended to prepare either wheat or rice, according to the state of the markets.

*At Flensburgh* also, there is a mill constructed for both wheat and rice---capable of manufacturing 20,000 bushels of rough rice.

*In Holland*, at *Amsterdam*, a mill has been some years in operation, which requires from 60 to 80,000 bushels of rough rice annually.

*In Portugal*, at *Lisbon*, there is a small mill which prepares either wheat or rice, requiring about 10,000 bushels of Carolina annually.

*In France*, at *Bordeaux*, a mill has but recently been put in operation---for it, in the year 1842, were shipped about 60,000 bushels of Carolina rough.

A mill constructed after Mr. Napier's plan, has been erected by the "Northampton Rice Company" at *Maranham*, in *South-America*, where it is in successful operation. It is supplied with paddy grown in the neighborhood.

The articles received from the several countries above named, as well as from Cuba, may here be mentioned.

From *Denmark* and *Holland*, as indeed from all the other countries, (England and France excepted,) little is received in the shape of return cargoes---the purchases of both rough and clean rice, being for the most part, paid for by bills of Exchange on London.

From *Bremen*, were once received glass-ware, bottles, bagging, hams, paving-stones, &c., but the United States Tariff of duties has put a stop to these importations.

From *Portugal*, the returns are fruit and wines prinpally.

From *France*, the articles at present received are silks, wines and brandy. This trade also has been affected by the Tariff.

From *England*, are imported in return, iron, hard-ware, manufactures of cotton, woollen and linen, salt, coal, &c.

From *Cuba*, the returns are sugar, molasses, coffee and fruit.

The consumption of rice in Cuba is estimated at 15,000 barrels for the North-side, and 2,000 for the South-side of the Island.

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From the South-Carolina Temperance Advocate.

## PROCEEDINGS OF THE STATE AGRICULTURAL SOCIETY.

HELD IN COLUMBIA, S. C.

November 27th, 1843.

The following Delegates appeared from the different Societies.

*Chester District.*—J. Douglas, Maj. McCully, J. Y. Mills.

*Fishing Creek, Chester.*—L. A. Beckham.

*Wateree, Kershaw.*—Ben. Perkins J. Chesnut, A. H. Boyken, J. Cantey, W. McWillie.

*Spartanburgh.*—G. Cannon.

*Peedee Agricultural Society.*—Dr. Smith, J. N. Blakeney, John McQueen, Samuel Sparks.

*St Peters, Beaufort.*—Henry Smart, J. Lartigue.

*St. Lukes.*—J. Fickling.

*Christ Church.*—J. S. Rhett, Andrew Hibben.
*St. Andrews.*—John Rivers, Paul C. Grimball.
*Black Oak Agricultural Society.*—Wm. Carn, Peter Palmer, John Palmer.
*Williamsburgh.*—J. L. Mouzon, Wm. Buford.
*Cambridge.*—R. C. Griffin, A. L. Griffin, Wm. Eddins.

The Society assembled at 7 o'clock. The President took his seat. The Delegates enrolled their names.

The following letter was presented to the Society—

Charleston, S. C. Nov. 24th, 1843.

*To the Hon. W. B. Seabrook:*—

SIR:—Permit me through you, to offer to the acceptance of the State Agricultural Society, for the purposes to be stated, three copies of the Farmer's Register, complete in 10 volumes, of as many years publication, under my direction. I request of the Society to offer, and in due time award these three copies, severally, as premiums, as follows:—

One copy for the best conducted experiment made in South Carolina in 1844, with Marl, showing as accurately and fully as possible, the manner and cost of application, and the effects for the first year.

Another copy in like manner, for experiments made with Lime from oyster shells, or with crushed shells. And the third copy in like manner, for experiments made with lime burnt with limestone from the upper Districts. And as the results of applications of Calcareous Manures, even when most judiciously and properly made can never, for the first year, approach in value to the later and continued results of after years, and as still smaller must be the first years' results from injudicious modes of application, I would desire that it be *requested*, though not *required*, or made a condition of obtaining the premium, that each successful competitor, or the succeeding proprietor of the land, shall again repeat generally as the latest known results, once or more, from 5 to 10 years after the application. The details of the requisition in regard to the several clauses of experiments, of course, are designed to be left to the discretion of the Society.

Very repectfully,

EWD. RUFFIN.

On motion of Maj. Felder, agreed to.

An Essay on Malaria, and one on the History, Culture, &c. of the Cotton Plant, was presented.

Major Felder moved that each be read to the Society. This motion was opposed by the Hon. J. B. O'Neall, and lost.

On motion of Hon. J. B. O'Neall, it was ordered, that these Essays be published by the Secretary.

Mr. Rivers moved, that our State Agricultural Surveyor be invited to take a seat in the Society, which was unanimously agreed to, and Mr. Rivers appointed so to inform him.

Mr. McCarthy moved that a Committee of nine be appointed to consider and report what measures it is desirable should be adopted, to extend the usefulness of this Society, which was agreed to, and the following gentlemen appointed:—P. S. McCarthy, E. G. Palmer, J. M. Felder, James Rhett, J. Brown, Dr. Douglas, Jas. Chesnut, Gen. Buchanan, and R. F. W. Allston.

On motion, it was agreed, that the Hon. W. B. Seabrook be added.

On motion, the Society adjourned till 7 o'clock to-morrow evening.

J. B. DAVIS,
*Recording Secretary.*

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Tuesday Evening, Nov. 28.

The Minutes of the last evening were read, and the following letter read from Mr. B. F. Taylor:

My Dear Sir:—The articles of Silk Fabric herewith sent, have been sent me by Miss Fleming, of Spartanburgh District, for exhibition, at the Meeting of the State Agricultural Society. The state of my health will prevent my attendance, and I must request you to place them in the hands of the Committee which may be appointed to award Premiums for Domestic Fabrics of the kind. The Silk Fabrics sent you were made and spun and wove by Miss Fleming's *own* hands, and consists of two vests and two coat patterns.

Yours, &c. B. F. TAYLOR.

Nov: 28th, 1843.

Mr. McCarthy moved a re-consideration of the motion of Hon. J. B. O'Neall, to print the Essay of Dr. Dickson, on Malaria, and that of the Hon. W. B. Seabrook, on the Cotton Plant, without reading, which was agreed to, and the Essay on Malaria was ordered to be forthwith read, and that of the Hon. W. B. Seabrook on to-morrow night.

On motion of Mr. Fickling, it was agreed a vote of thanks be tendered to Dr. Dickson.

Mr. McCarthy, Chairman of the Committee of nine, presented the following:

*Resolved*, That the competition for Premiums in this Society shall be confined to the following classes of specimens and upon the following terms, and that it shall also be confined to the successful competitors in the local Societies, for the same benefit, in cases where there is no local Society, in which event the competitor may send his certificate to this Society to contend for the Premium. 2d. Sec

2d. *Resolved*, That the Secretary of this Society communicate a copy of these Resolutions to each local Society in the State with a request that they communicate to

this Society all information necessary or desirable to a correct judgment between the competitors from each, and any other matter that may be thought calculated to aid the object of this Society.

*Resolved*, That the following Premiums be offered for the next year.

1. A silver cup for the best managed Farm, - - - $20 00
2. A silver cup for the greatest production of Corn, to an acre. - - 10 00
3. A silver cup for the greatest production of Short Cotton to the acre. - 10 00
4. A silver cup for the greatest production of Sea Island Cotton, having reference to quality and valuation, - - - - - 10 00
5. A silver cup for the greatest production of Wheat to an acre, - - 10 00
6. A silver cup for the greatest production of Rice, to an acre, - 10 00
7. A silver cup for the greatest production of Potatoes to an acre, - 10 00
8. A silver cup for the best specimen of Silk fabric. - - - 10 00
9. A silver cup for the best specimen of Domestic fabric, - - - 10 00
10. A silver cup for the best specimen of Domestic Cotton Bagging, - 10 00
11. A silver cup for the best specimen of Domestic Rope. - - - 10 00

In order to disseminate and preserve useful Agricultural information, it is essentially important that an Agricultural Journal under the charge of an efficient Editor be established and maintained, and that the Editorial department should be separate from the Printing business. Therefore,

*Resolved*, That the members of this Society do agree to use their best efforts to raise in their respective Districts and Parishes, a sum equal in the general aggregate, to $2000, for two years services of an Editor. That the amount subscribed by each individual, shall be limited to one dollar, which shall be considered as an offering on the part of the subscribers to promote the Agricultural interests of South-Carolina, and the amount collected be forwarded to the Secretaries of the Society, as soon as possible.

*Resolved*, That the members of this Society do further engage to procure if possible, eight subscribers for two years to said Journal, for every member of the State Legislature to which his District or Parish is constitutionally entitled.

The above Resolutions were separately put to the vote of the Society. Agreed to.

Col. Edwards, moved that the Secretary do prepare an Alphabetical list of the members of this Society, and have the same printed with the proceedings of the Society, which was agreed to.

On motion of E. G. Palmer, the Secretary was required to make out the indebtedness of each member of the Society, and cause the same to be paid forthwith.

On motion, it was

*Resolved*, That the propriety of re-organizing this Society upon a more permanent basis be submitted to the Committee of nine to report as soon as possible. Agreed to.

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Col. R. F. W. Allston, Chairman of the Committee on Rice, presented and read the following Report.

The Committee on Rice, in their last Report, prepared the members of the Society to expect some account of the origin and preservation of the large grain Rice, from the judicious and very

eminent Planter who has so successfully cultivated it, and whose "brand" the remarkable qualities of the Rice so admirably illustrate, and so substantially recommend.

They are gratified in being enabled by the attention of the Planter of Brook Green to meet the expectation of the Society.

Together with specimens of the Rice both in the rough and clean, as prepared for market, they beg leave herewith to lay before you a copy of a letter on the subject from Col. Ward, to a friend of his, showing how the grain came first to be noticed, how it was most carefully preserved and most patiently reared till the harvest of this year.

The seed will be on sale during the season at the Counting House of Messrs. Robertson & Blacklock, in Charleston.

The Committee also alluded to some experiments of Dr. E. T. Heriot of Winyaw, in manuring Rice-land with straw and tailings. They are pleased at having it in their power to present to the Society an account from Dr. Heriot himself of his experiment in this regard, together with interesting specimens of the superior growth of the soil so manured, namely,

1st. Some tubers of *Arrow-Root*, remarkably large and succulent.

2d. A cluster of from 70 to 80 stems of Rice, produced under the Doctor's eye, from *one grain*.

It is with the highest satisfaction and pleasure that your Committee observe the lively interest which the Planters of the lower country are now taking in the improvement of their lands and their culture, the substantial benefits as well as the pleasure derivable from the practice of scientific Agriculture, will give rise they trust to new and ever increasing interest.

The Committee cannot close this Report without taking the liberty to recommend to every young man, who is turning his attention to planting, to devote a given portion of his time weekly, to the study of Agricultural Chemistry.

This would be done with better effect, and more satisfactory progress, if he would attend for one or two years successively, a course of Lectures, from a gentleman of practical ability, in that branch of Chemical study.

Respectfully submitted.

R. F. W. ALLSTON,
*Chairman.*

*Letter from Col. Ward, on the Large Grain Rice.*

Brook Green, Nov. 16, 1843.

*Dear Allston,*—The following brief remarks relative to the big grain Rice, I send you in compliance with your request.

In 1838, my overseer, Mr. James C. Thompson, a very judicious planter, residing on my Brook Green estate, accidentally discovered in the barn-yard during the threshing season a part of an ear of Rice, from the peculiarity of which he was induced to preserve it, until he had an interview with me.

It was so very different from any other Rice I had attentively examined, in point of size, that I requested him to take care of, and plant it in the Spring on one of the rice-field margins, which had not been cultivated for several years. This, however, proved to be an unfavorable spot: for in long watering, the trash settled on and about the experiment rice—and after the "long water" the rats also injured it no little. These causes reduced the number of plants which matured to only six, the grain of which appeared the same as that which was planted.

Our want of success in procuring the quantity of grain expected, induced us in the Spring of 1839, to plant the Rice in a large tub filled with swamp mud, and placed in Mr. Thompson's garden, where it could be watered and attended to every day. But here another misfortune befell it. The careless servant who had it in charge, left the garden gate open, and a hog getting in destroyed the greater part of the rice. The remaining shoots were carefully taken up and transplanted in a pond: from which we obtained three pecks of rotten light rice—the fact of its being light was attributed to the want of water at the critical time of its maturing.

In the year of 1840, we planted with this seed not quite half an acre of new land, at "*Long Wood,*" which yielded in the Autumn, forty-nine bushels and a half of clean winnowed rice.

In the year 1841, this product was sown in a twenty-one acre field at *Brook Green,* which yielded in the Autumn, one thousand one hundred and seventy bushels of sheaf rice, clean winnowed. Of this quantity, from one hundred and fifty to two hundred bushels were milled, and sent to market. My Factors disposed of it at a considerable advance beyond the highest market price.

In the year 1842, I planted four hundred acres with this seed, and being so perfectly satisfied with both the product and the improved quality of the same, I was induced in the succeeding year (1843.) to sow with it my entire crop. The first parcel, when milled, consisting of eighty barrels, netted *fifty cents* per cwt. over the primest new rice sold on the same day.

Such is a hurried account of the origin of the *big grain Rice*, which I have been solicited to furnish. I earnestly trust that this improvement in the seed, will be of incalculable benefit to the entire Rice-growing region.

Sincerly yours,

JOSHUA JOHN WARD.

To Col. R. F. W. ALLSTON.

—

Mount Arena, Nov. 8, 1843.

*Col. R. F. W. Allston*,—Your queries respecting the varieties of Rice, &c. reminds me of my promise to give you the result of some of my experiments with rice-straw and tailings, as manure to rice land. Wherever they have been put upon my fields, which had been making small crops, the effect has been satisfactory, and it has become a part of the system of my plantation.

In the month of Nov. 1839, I caused the stubble of two fields, one 15 the other 10 acres, to be listed four feet apart, and parallel with the drains, after which a furrow was made on each side with a large plough: the land unbroken in the centre was then drawn upon the beds with hoes. During the time of thrashing the straw and tailings were carried off in a large flat, and each load was distributed between the beds of one acre, until the whole was covered—in this state they were left until the last week in June, when all the volunteer rice and grass was hoed down, and the beds reversed with ploughs and completed with hoes—the ditches and drains were then cleaned, and the fields were planted in peas, set in chops about a foot apart—the land was in good order, and the peas grew luxuriantly, and made a fine crop—no volunteer rice, and as little grass as possible was allowed to go to seed.

In the first week of April the vines were cut down, and the beds were leveled with ploughs and hoes—this was very easily done as the land was dry and remarkably loose—they were then trenched

in the usual way 13 inches, from centre to centre—two bushels and twelve quarts of rice were planted to each acre, and the seed was well covered with earth—during the cultivation the common plan was pursued, (*i. e.*) Sprout, point, long, and lay—by flow—two hoeings between the point and long flow, two after, and one picking in the water. The crop was well saved and produced within a fraction of 73 bushels to the acre—the straw and chaff of this rice was of a much lighter color than any other made upon the plantation, and the grain was of superior quality—1970 bushels of rough rice made from land treated in the manner described, was pounded at the Georgetown Steam-mill last winter, and turned out, (tierces 600 lbs. nett.)

98 tierces and 157 lbs. prime Rice.
5 do. middling, and
3 do. small, with
198 bushels Flour.

I cannot say, what had been made upon these fields for the three or four previous years, but on reference to the plantation book where an account had been kept, I found the average crop from them to have been 33 bushels and a fraction to the acre.

In some of my fields I have planted oats upon the beds, one and sometimes two rows, and these have in some instances been followed by potato slips, which succeed remarkably well, and it may be worthy of notice, keep fully as well, if not better than those made upon high land.

Although the rice thus made received as much work as is usually bestowed under the best cultivation, yet it was not bestowed from its seeming to require it, but from the fact of its being convenient to do so in turn with other fields of the plantation. I believe as much might have been made with two workings, as the grass had been so completely destroyed, and the land so thoroughly opened previously, that but little remained to be effected by the hoes—from subsequent observation this land is much more easily cultivated, and with proper care some years must elapse before the volunteer rice, and various grasses regain their standing.

Which of the three means employed in this plan is of most importance is to be determined—thoroughly breaking the soil, with

the destruction of volunteer rice and grass seed, change of crop and culture, or the application of the rice-straw.

The work laid out in this manner ought not to be considered as altogether additional, but very much is given in advance; and at a time well suited to it—as when the rice planting season arrives it will be found, as before remarked, to require very little more; after which its state of preparation, for a good crop, will far exceed any condition that could be brought about by the means at command during the winter season.

From the observations which I have made since my attention was first drawn to this matter, it appears that it would be profitable for such persons as plant weak or impoverished land to subject 1-5th of the quantity annually planted to this mode of treatment. From the increase which might be obtained in the first crop, a considerable return, if not all, would be made for the loss of a rice crop on the land for one year, and the balance, if any, would be soon made up by the succeeding crops—besides the advantage gained from the increased fertility of the fields for some years, the enhanced value of their production from the superior quality of the grain, and the diminished labor during the cultivation of the succeeding crops.

Impoverished rice land is particularly susceptible of improvement from manure—as may be often seen where fields are so situated as to receive the washings by rain of adjacent corn or potato fields annually manured with rice-straw, and it is more lasting in its effects than might be supposed, as is proved by the marked difference in rice growing in fields where cattle-pens or feeding-troughs had been placed, often many years before.

With great regard,

EDW'D. T. HERIOT.

—

Wednesday, Nov. 26th, 1843.

The Society convening, the following letter was read by the President.

Charleston, Nov. 27th. 1843.

*Dear Sir*,—At the suggestion of several planters, I have partly concluded to deliver a free Lecture on Agricultural Chemistry, beginning with familiar instruction in those general chemical principles which it is necessary to understand in order to appreciate fully the science of Agriculture, and the various changes that

take place in plants during their growth. I now address your Society, through you, to ascertain what success such an undertaking might meet with, and during what month it would be advisable to deliver the Lectures. The month of February has been proposed.

Your's respectfully,

J. LAURENCE SMITH.

To the Hon. W. B. SEABROOK.

E. G. Palmer in absence of the Chairman of the Committee of nine, presented the following Report:—

The Committee to whom was referred Mr. Palmer's Resolution to reorganize the Society upon a more permanent basis,—beg leave to report, that they have had the same under consideration, and do recommend that in future the funds of the Society shall be raised by the annual subscriptions of its members, and by an annual contribution of five dollars, by each of the District and Parish Societies. And that the Secretary of this Society be instructed to communicate a copy of this Resolution to the local Societies throughout the State, and requesting their concurrence.

*Resolved*, That if the funds of this Society will permit, the President be authorized to offer Premiums for Stock, for the ensuing year.

These resolutions were sustained by Mr. Palmer, Dr. Davis, Mr. Rhett, Col. Davis, Mr. Brown, and unanimously agreed to.

On motion of Mr. Rhett, the President was called on to read his essay on the Cotton Plant, which was forthwith read. After which Mr. Roper of Chester, moved.

That the thanks of this Society be tendered to the President of the Society for his *able* and interesting history of the Cotton Plant and its introduction into the State, displaying much classical lore, and great literary and statistical research, and that the Report be printed in Pamphlet form for general information. Agreed to.

The Committee appointed to make the awards on the Stock exhibited for Premiums, were now called on and made the following Reports:

ON HORSES.

The Committee on Horses beg leave to report, that after minutely examining the largest and finest selection of Horses, ever before presented to this Society, that they award as follows:

For the finest Stallion for *saddle purposes*, they award the Premium to Col. W. Hampton, for his imported bay horse Monarch.

For the finest Mare for *saddle purposes*, to Col. Hampton, for his chesnut mare *Fanny*.

For the finest male or female, under 3 year old for *saddle purposes*, to Col. Hampton, for his b. bay filly, by Monarch.

For the finest Stallion for *harness* purposes, to Col. Hampton, for Monarch.

For the finest Mare for *harness* purposes, to Col. Hampton, for *Fanny*.

For the finest male or female under 3 year old for harness purposes, to B. F. Taylor, for his chesnut filly, by Monarch.

Apart from the high estimation in which several competing animals were held, particularly Mr. Gamble's Emancipation, and Dr. Toland's mare, had some hesitancy in deciding against them.

Respectfully, J. WRIGHT,
*Chairman.*

The Committee on Mules ask leave to report, that they were 27 mules exhibited, which were raised *in the State*. Another foaled Kentucky, reared and broken in Carolina, was driven on the ground by Mr. Cochrelle of Fairfield. This, although an animal worthy of special notice, was deemed as not entering the list of competitors, not being strictly a native of the State.

To Col. Jonathan Davis of Fairfield, has been awarded the first premium for exhibiting the best mule over 3 years old.

To Hon. J. M. Felder of Orangeburgh, for he best mule under 3 years old.

This exhibition was a very creditable one. Col. Davis had a road waggon on the ground, to which was hitched an entire teem (5 in number) of his own rearing.

Major Felder exhibited 19 mules, two years old, 3 of which were very good, 3 yearlings, and 9 sucklings.

Respectfully submitted,
R. F. W. ALLSTON,
*Chairman.*

The Committee on Cattle beg leave to Report, that after a thorough examination of the Stock exhibited, they award the premiums as follows:

To Col. Hampton for the best milch Cow.
To Col. Cochrelle, for 2d best Cow.
To Dr. Toland, for the best Heifer under three year old.
To Col. Hampton, for the 2d best Heifer, under three year old.
To Col. John Davis, for the best Bull.
To B. F. Taylor, for the best Bull under three years old.

Respectfully submitted
THOS. STARK, *Chairman.*

The Committee on Sheep, report that Col. W. Hampton, was the only competitor for the premiums for sheep : but that the stock exhibited by him sustained the high character of the Bakewells, and in every respect merited the premiums awarded for the best Ram, best Ewe, and best pair Lambs.

Respectfully submitted,
E. G. PALMER, *Chairman.*

The Committee on Hogs beg leave to Report, that they were exhibited by Col. Hampton, Dr. Parker, and Col. Cochrelle, several fine specimens of the Berkshire, and one of most extraordinary size, by Mr. Gamble of Fairfield.

To Col. Hampton is awarded the premium for the best Boar.
To Col. Cochrelle, for the best Sow.
To Dr. Parker, for the best pair of Pigs.

Respectfully submitted,
W. J. ALSTON, *Chairman.*

All of which were received.

Mr. A. H. Boykin, moved that a committee of nine be appointed to nominate officers for the ensuing year—and report to-morrow evening to this Society. Agreed to, and the following appointed. A. H. Boykin, J. B. Grimbal, J. M'Carthy, Gen. Buchanan, R. W. Roper, J. G. Brown, R. F. W. Allston, J. M. Felder, Dr. Douglas.

Dr. Douglas moved that the Secretary be requested to publish in the Temperance Advocate and the Southern Agriculturist, the Constitution of the State Agricultural Society. Agreed to. Society adjourned till half past 6 to-morrow.

J. B. DAVIS, *Recording Secretary.*

—

Thursday Evening, Nov. 30th, 1943.

The proceedings of the last meeting were read, and a letter from his Excellency J. H. Hammond was read, as follows:

Columbia, 27th, Nov. 1843.

*Dear Sir,*—In fulfilment of my promise made last November, I again communicate to you the results of my experiment in *Marling.* The year has been so unfavorable for cotton, and my crop has fallen so far below the promise of July, that if I had not left some unmarled acres for a test, I should, as no doubt has often been done in other experiments, have come to the conclusion that all my labor had been vain: and that in fact, the marl had seriously injured my land. The truth, however, is very far to the contrary, and I now think that but for the marl I should have made no crop at all.

I planted this year seven hundred acres of marled land: of which six hundred and eighty were in cotton, the remainder in pindars and potatoes, of which no accurate account was kept. The cotton turned out about as much per acre in the whole, as the average of the same land for the last ten crops. But believing this year to have been at least 20 per cent. more unfavorable than an average one, I attribute that much increase to the effect of the marl.

In my last communication I stated that I had selected four acres of good mulatto land, and four others of very light sandy soil, one acre of which in each selection was left unmarled, and the others marled with one, two and three hundred bushels respectively.—For the purpose of shewing the difference between the most favorable and the most unfavorable seasons I have known for cotton, as well as to indicate the progressive comparative influence of the marl, I subjoin the results of the last, as well as the present year, on these experimental acres.

*Experiment No.* 1.—*Mulatto Land.*—1842.

| | | | | | |
|---|---|---|---|---|---|
| Unmarled acre, | 1111 lbs. Seed Cotton. | | | | |
| 100 bushels do. | 846 | do. Decrease | 265 lbs. | 22.3 | per cent. |
| 200 do. do. | 1003 | do. | 103 | 9.7 | " |
| 300 do. do. | 1313 | do. Increase | 207 | 17.7 | " |

*Same Land*, 1843.

| | | | | | |
|---|---|---|---|---|---|
| Unmarled acre, | 493 lbs. | Seed Cotton. | | | |
| 100 bushels do. | 654 | do. | Increase 161 lbs. | 32.6 | per cent. |
| 200 do. do. | 759 | do. | 266 | 53.9 | " |
| 300 do. do. | 841 | do. | 348 | 70. | " |

As I remarked last year, the acres with one and two hundred bushels of marl are decidedly inferior in quality to the other two. The unmarled acre and that with 300 bushels, are as nearly equal as any two on my plantation. It is hardly necessary to say, that these acres lying side by side, were all planted on the same day, and cultivated in precisely the same manner.

The experimental acres of the thin light land were planted last year in Corn. All the marled acres produced better than the unmarled, but I will not repeat the statement, as it does not afford an accurate comparison with the cotton crops of this year, of which the following is the result.

*Experiment No. 2.—Very Light, Sandy soil*, 1843.

| | | | | | |
|---|---|---|---|---|---|
| Unmarled acre, | 361 lbs. | Seed Cotton. | | | |
| 100 bushels do. | 451 | do. | Increase 90 lbs. | 24.9 | per cent. |
| 200 do. do. | 384 | do. | do. 23 | 6.3 | " |
| 300 do. do. | 173 | do. | Decrease 188 | 52. | " |

The land, being very old, is bare of vegetabte matter for marl to act on, to which more than to the texture of the soil, inferior as it is, I attribute the failure of any great improvement from it. I make the statement however, because it is valuable in many respects. It shows the danger of heavy marling on worn land without previous rest or manure. The acre with three hundred bushels has been destroyed. There is one rich spot, the bottom of a small basin in the centre of it, which produced nearly all the cotton gathered. On the rest of it the weed mostly died as soon as it came up--one hundred proves a better quantity than two hundred bushels, and perhaps a little less would have been still better on this soil—at least to begin with. All the lightest land in the fields marled with two hundred bushels was evidently injured and now requires help. I anticipated this effect from what I saw last year, and reduced the quantity to one hundred and fifty bushels on all the land then marling. I have reduced it now to one hundred bushels and shall hereafter marl at that rate. I prefer to go over it again after I have finished all, and give it what it may prove itself able to bear after resting once or thrice.

The crop of this year has satisfied me perfectly that cotton will mature at least a fortnight earlier on marled than on unmarled land.

Another unexpected effect of marl it may be worth while to state. I commenced in the spring of 1842 to put it in my stable, pretty freely for the purpose of improving my manure. I did not think of its having any material effect on the health of the Mules. but I have had but little sickness among them, and have not lost

one since, while previously I lost on the average four annually, and never in any year, less than two. I attribute this change in a great measure to the absorption of noxious gases by the marl.

I am now marling as actively as heretofore, and I esteem it so beneficial that I have this summer marled a field of over two hundred acres, the average haul to which is three miles from my landing: and being tolerable fresh land that has rested this year, and was sowed in oats last year, which were not cut but grazed down after ripening, I have put on a hundred and fifty bushels.

The fields on which my experimental acres are, will rest next year. I shall not therefore be able to continue my reports to you. Since however, the valuable labors of Mr. Ruffin in the State, have given a decided impulse to marling, I presume that all who are in reach of marl will at least experiment for themselves; and it will be of no consequence that I should longer communicate my experience.

I am very truly and respectfully your obedient servant,

J. H. HAMMOND.

Hon. WHITEMARSH B. SEABROOK.

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The following letter was then read:

Columbia, Nov. 20, 1843.

*Dear Sir,*—I beg leave, this year, to invite the notice of the Agricultural Society of South-Carolina, to the new and improved mode of making manure, by George Bommer, of New-York.—He has written a valuable work on this subject, which, resting upon facts and practical results, he with confidence recommends to the farmers and planters of this State. It perhaps is necessary for me only to state, that he has discovered, first,—two different processes, by means of which any one can cause, in a few days, the decomposition of all straw and green or dry vegetables, and their conversion into a rich, unctious and durable manure—secondly, two processes, one by high fermentation, and the other by moderated fermentation, by means of which any one can reduce all kinds of turfy or swampy matter, into a rich vegetable compost or mould; thirdly, a process, without fermentation, to reduce all kinds of swampy matter, pon-mud, slime from rivers or the sea shore, street mud, black earth from the woods, &c. &c., into a superior mineral compost.

I ask leave further to acquaint you, that I am the agent of this State, for the selling of the book which contain all the information on the subjert which is necessary to be known, and that I have now partly in practice, Bommer's method of making manure in my garden, opposite the State House, and it would afford me pleasure if the members of the State Society would examine.

Respectfully yours,

R. E. RUSSEL.

Mr A. H. Boykin, Chairman of the Committee appointed to nominate officers for the ensuing year, made the following nominations:

Hon. Whitemarsh B. Seabrook, President.
Chancellor B. F. Dunkin, 1st. V. President.
Chancellor Harper, 2d. do.
Whitfield Brooks 3d. do.
Hon. J. B. O'Neall, 4th. do.
Gen. J. Gillespie, 5th. do.
Hon. J. M. Felder, 6th. do.
Dr. R. W. Gibbes, Corresponding Secretary.
Dr. James B. Davis, Recording Secretary.
R. W. Roper, of Charleston, Anniversary Orator.

Which was unanimously received.

The Hon. W. B. Seabrook addressed the meeting at some length, and again took his seat as the presiding officer for the next year.

Mr. F. H. Elmore, moved that the President of this Society be requested to prepare at his leisure, and as his health and other pursuits will permit, a memoir on the subject of our institution of Slavery, giving a history of its introduction and progress down to the termination of the slave trade, under the constitution, and in its domestic bearings down to the time he concludes his memoir, with the changes and ameliorations in its condition; its influence and effects on our agricultural, mechanic and manufacturing interests; also upon our domestic, social and political relations.

Mr. Elmore sustained this with much earnestness, and when put, unanimously adopted.

Mr. Rhett moved, that the thanks of this Society be returned to William J. Taylor, Esq. for his able and eminently practical Address.

*Resolved*, That he be requested to furnish the Society with a copy for publication. Agreed to.

The awards were made to the successful competitors, in the usual imposing manner by the President.

Several specimens of Domestic Silk were exhibited, one from Miss Flemming, of Spartanburg, and another from Mrs. Baskins of Abbeville District, to each of whom, by motion of J. G. Brown, the Secretary was ordered to furnish a Silver Cup of the value of Five Dollars, suitably inscribed.

The Hon. J. B. O'Neall moved, That a semi-annual meeting of the State Agricultural Society be held on the 2d Wednesday in September next, at Greenville, S. C. That the President be requested to call the attention of the local Societies to the subject, and request them to send their delegates, and that at that meeting premiums be offered on all the subjects heretofore given.

Hon. J. B. O'Neall sustained this Resolution at length, advocating it as not in contemplation to be partial, but if the experiment be successful, to go on throughout the State in annual fairs, &c. &c.

The Resolutions were flatteringly sustained by several, and unanimously adopted.

Dr. Davis then moved, that an Executive Committee of nine, be appointed by the President to arrange the premiums at the Greenville Exhibition, in consonance with the resolutions proposed and adopted by the Committee of nine, on the Evening of the 28th, as nearly as practicable.

Dr. Davis stated that the awards proposed by that Committee to be distributed at our next Exhibition, would not suit but one or two of the productions of this year, and the Domestic Fabrics, with Stock.

This was agreed to, and the President, on the suggestion of Mr. Allston, appointed the nine officers of the Society

The Society then adjourned to meet in Greenville, on the 2d Wednesday in September, 1844.

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The following are the Committees for next year.

ON COTTON.

| | | | |
|---|---|---|---|
| Whitfield Brooks, | *Edgefield.* | J. Douglas, | *Chester.* |
| Gen. J. H. Means, | *Fairfield.* | A. H. Boykin, | *Kershaw.* |
| Wm. K. Clowney, | *Union.* | J. H. Fickling, | *St. Luke's* |
| Paul Grimbal, | *Colleton.* | | |

ON CORN.

| | | | |
|---|---|---|---|
| Wm. K. Davis, | *Fairfield.* | Gilbert Geddes, | *St. Andrew's.* |
| J. M. Felder, | *Orangeburg.* | J. G. Brown, | *Barnwell.* |
| B. F. Taylor, | *Richland.* | | |

ON RICE.

| | | | |
|---|---|---|---|
| R. F. W. Allston, | *Winyaw.* | Joshua Ward, | *All Saints.* |
| J. B. Grimbal, | *St. Paul's* | Hon. B. F. Dunkin, | *All Saints.* |
| J. Ferguson, | *St. John's Berkly.* | | |

ON SMALL GRAIN.

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|---|---|---|---|
| Hon. J. B. O'Neall, | *Newberry.* | Dr. Douglas, | *Chester.* |
| Gen. J. Gillespie, | *Marlborough.* | Judge Butler, | *Edgefield.* |
| E. G. Palmer, | *Fairfield.* | | |

On motion it was

*Resolved*, That the Hon. J. B. O'Neall deliver an Address at the Greenville meeting.

The following are the presiding Officers of the several Agricultural Societies in the Districts, and Parishes.

1. *Agricultural Society of St. John's Colleton*—Wm. G. Baynard, President.
2. *Fairfield Agricultural Society, at Winnsboro*—E. G. Palmer, President.
3. *Monticello Planter's Society*—J. H. Means, President.
4. *Barnwell Agricultural Society*—Hon. Angus Patterson, President.
5. *St. Luke's Agricultural Society*—Dr. J. Fickling, President.
6. *St. Andrew's Agricultural Society*—W. Lawton, President.
7. *Stono and Ashley Agricultural Society*—Wm. Brisbane, President.
8. *Indian Land Agricultural Society, York*—Dr. A. Barrow, President.
9. *Winyaw and All Saint's Agricultural Society*—John H. Tucker, President.
10. *Wateree Agricultural Society.*
11. *Peedee Agricultural Society.*
12. *Chester Agricultural Society.*
13. *Fishing Creek Agricultural Society.*
14. *Cambridge Agricultural Society.*

JAMES B. DAVIS,
*Recording Secretary.*